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Networked collaborative virtual environment (NCVE) allows users from diverse locations to work together via virtual workspaces. It is a complex environment requiring coordination amongst team members who are physically invisible and have loose-tie team relationships. To enhance team coordination, roles have been utilized to manage the segregation of tasks among users. Research shows that role transition is a key factor in a successful business process. It acts as a medium for a team to resolve conflict amongst its members. If the changes in roles are not managed effectively, the collaborative works can be disrupted and impose undue pressure on users. However, most studies in managing dynamic groups for NCVE are more inclined to resolve domain specific role transition issues. Furthermore, most existing role-transitions in NCVE must be dealt with manually by external entities to the NCVE system, which are solely done through human intervention. As a result, role transitions are hardly matched or coped with. Hence, this research explores the feasibility of having a socio-technical approach in managing role transitions that can be embedded in NCVE systems to assist both users and computer automation in managing role-transition. This research begins by conducting a case study, which is aimed at observing real-life scenarios in a call center environment. Using a goal directed approach; the real-life scenarios are illustrated through four personas in eleven scenarios where they are further analyzed with abstract scenes analysis method to produce early findings. The findings are used as a basis to identify the dynamic behavior of roles and provisions of role transition through observation and exploration of the extensive possibilities of a Monopoly game. As a result, a new role transition structure is modeled. Next, the model is transformed into a set of language constructs via Baun-naun-form (BNF) to become a major extension to an existing scripting language named JACIE. Lastly, the language constructs are applied to a call center application to test their functionalities. This research has contributed to a flexible role transition management in the socio-technical approach in two ways: modeling and language constructs. The model supports a range of role transition management designs that are not bound by any specific domain. The language constructs enable programmers to develop prototypes of NCVE applications rapidly whilst hiding the complexity of technical details. In summary, this research shows that it is feasible to embed a role-transition manager into NCVE systems and it is applicable to a wider domain of applications as opposed to the current domain specific approach.